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FORM PTO-1449 U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket Number  
5308-156

Serial No.  
09/911,995

LIST OF DOCUMENTS CITED BY APPLICANT



(Use several sheets if necessary)

Applicants: Ryu, et al.

Filing Date: July 24, 2001

Group  
2811

U. S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
27K7A	1	5,506,421	4-9-96	Palmour	257	77

FOREIGN PATENT DOCUMENTS

Document Number	Date	Country	Class	Subclass	Translation Yes   No

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

27K7A	2	M. K. Das, L.A. Lipkin, J.W. Palmour, G.Y. Chung, J.R. Williams, K. McDonald, and L.C. Feldman, "High Mobility 4H-SiC Inversion Mode MOSFETs Using Thermally Grown, NO Annealed SiO <sub>2</sub> ," <i>IEEE Device Research Conference</i> , Denver, CO June 19-21, 2000.	✓
	3	<del>G.Y. Chung, C.C. Tin, J.R. Williams, K. McDonald, R.A. Weller, S.T. Pantelides, L.C. Feldman, M.K. Das, and J.W. Palmour, "Improved Inversion Channel Mobility for 4H-SiC MOSFETs Following High Temperature Anneals in Nitric Oxide," <i>IEEE Electron Device Letters</i> accepted for publication.</del>	
27K7A	4	G.Y. Chung, C.C. Tin, J.R. Williams, K. McDonald, M. Di Ventra, S.T. Pantelides, L.C. Feldman, and R.A. Weller, "Effect of nitric oxide annealing on the interface trap densities near the band edges in 4H," <i>Applied Physics Letters</i> , Vol. 76, No. 13, pp.1713-1715, March 2000.	✓
	5	P.T. Lai, Supratic Chakraborty, C.L. Chan, and Y.C. Cheng, "Effects of nitridation and annealing on interface properties of thermally oxidized SiO <sub>2</sub> /SiC metal-oxide-semiconductor system," <i>Applied Physics Letters</i> , Vol. 76, No. 25, pp. 3744-3746, June 2000.	✓
	6	J.P. Xu, P.T. Lai, C.L. Chan, B. Li, and Y.C. Cheng, "Improved Performance and Reliability of N <sub>2</sub> O-Grown Oxynitride on 6H-SiC," <i>IEEE Electron Device Letters</i> , Vol. 21, No. 6, pp. 298-300, June 2000.	✓
	7	L.A. Lipkin and J.W. Palmour, "Low interface state density oxides on p-type SiC," <i>Materials Science Forum</i> Vols. 264-268, pp. 853-856, 1998.	✓
	8	A.K. Agarwal, J.B. Casady, L.B. Rowland, W.F. Valek, M.H. White, and C.D. Brandt, "1.1 kV 4H-SiC Power UMOSFET's," <i>IEEE Electron Device Letters</i> , Vol. 18, No. 12, pp. 586-588, December 1997.	✓
	9	A.K. Agarwal, J.B. Casady, L.B. Rowland, W.F. Valek, and C.D. Brandt, "1400 V 4H-SiC Power MOSFET's," <i>Materials Science Forum</i> Vols. 264-268, pp.989-992, 1998.	✓
	10	J. Tan, J.A. Cooper, Jr., and Mr.R. Melloch, "High-Voltage Accumulation-Layer UMOSFETs in 4H-SiC," <i>IEEE Electron Device Letters</i> , Vol. 19, No. 12, pp. 487-489, December 1998.	✓
	11	J.N. Shenoy, J.A. Cooper and M.R. Meelock, "High-Voltage Double-Implanted Power MOSFETs in 6H-SiC," <i>IEEE Electron Device Letters</i> , Vol. 18, No. 3, pp.93-95, March 1997	✓
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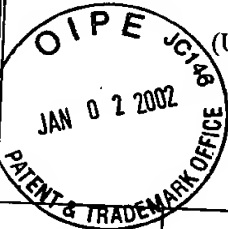
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15 A.V. Suvorov, L.A. Lipkin, G.M. Johnson, R. Singh and J.W. Palmour, "4H-SiC Self-Aligned Implant-Diffused Structure for Power DMOSFETs," *Materials Science Forum* Vols. 338-342, pp. 1275-1278, 2000.

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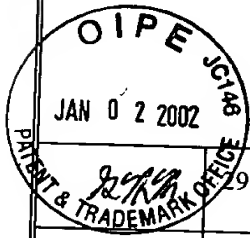
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	30	A.K. Agarwal, S. Seshadri, and L. B. Rowland, "Temperature Dependence of Fowler-Nordheim Current in 6H- and 4H-SiC MOS Capacitors." <i>IEEE Electron Device Letters</i> , Vol. 18, No. 12, Dec. 1997, pp. 592-594.	✓
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	32	Sze, S.M. <i>Physics of Semiconductor Devices</i> , John Wiley & Sons, p. 383-390, (1981).	✓
	33	H.F. Li, S. Dimitrijevic, H.B. Harrison, D. Sweatman, and P.T. Tanner. "Improving SiO <sub>2</sub> Grown on P-Type 4H-SiC by NO Annealing." <i>Materials Science Forum</i> . Vols. 264-268 (1998) pp. 869-872.	✓
	34	K. Ueno, R. Asai, and T. Tsuji. "4H-SiC MOSFET's Utilizing the H <sub>2</sub> Surface Cleaning Technique." <i>IEEE Electron Device Letters</i> , Vol. 19, No. 7, July 1998, pp. 244-246.	✓
	35	Chung et al. "The Effect of Si:C Source Ratio on SiO <sub>2</sub> /SiC Interface State Density for Nitrogen Doped 4H and 6H-SiC," <i>Materials Science Forum</i> . (2000) Vols. 338-342, pp. 1097-1100.	✓
h7KH	36	Pantelides et al. "Atomic-Scale Engineering of the SiC-SiO <sub>2</sub> Interface," <i>Materials Science Forum</i> . (2000) Vols. 338-342, pp. 1133-1136.	
	37	<del>Das, Mrinal K. Graduate thesis entitled, Fundamental Studies of the Silicon Carbide MOS Structure. Purdue University.</del> No publication data	✓

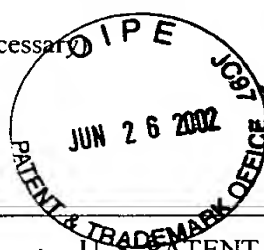
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U.S. PATENT DOCUMENTS							
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<i>RTH</i>	<i>4</i>	6,165,822	12/26/00	OKUNO ET AL	438	142	
<i>RTH</i>	1	6,096,607	8/1/00	Ueno	438	522	
<i>RTH</i>	<i>13</i>	6,221,700	4/24/01	OKUNO ET AL	438	137	
<i>RTH</i>	2	6,117,735	9/12/00	Ueno	438	268	
FOREIGN PATENT DOCUMENTS							
		Document Number	Date	Country	Class	Subclass	Translation Yes   No
<i>RTH</i>	3	DE 198 09 554	9/10/98	Germany ✓			Abstract
		<i>corresponds to US 6,165,822</i>					
	4	DE 19900171	12/26/00	Germany ✓			Abstract
<i>RTH</i>	5	DE 10036208	2/14/02	Germany ✓			Abstract
	6	JP 08264766	10/11/96	Japan ✓			Abstract
	7	JP 2000082812	3/21/00	Japan ✓			Abstract
	8	JP 11261061	9/24/99	Japan ✓			Abstract
	9	JP 11238742	8/31/99	Japan ✓			Abstract
	10	JP 11266017	9/28/99	Japan ✓			Abstract
	11	JP 11274487	10/8/99	Japan ✓			Abstract
<i>RTH</i>	12	JP 2000049167	2/18/00	Japan ✓			Abstract
		<i>corresponds to US 6,221,700</i>					
	13	JP 2000106371	4/11/00	Japan ✓			Abstract
<i>RTH</i>	14	JP 03157974	7/5/91	Japan ✓			Abstract
<i>RTH</i>	15	JP 09205202	8/5/97	Japan ✓			Abstract
<i>RTH</i>	16	JP 11191559	7/13/99	Japan ✓			Abstract
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
<i>RTH</i>	17	Chakraborty et al. "Interface Properties of N <sub>2</sub> O-annealed SiO <sub>2</sub> /SiC system," <i>Proceedings IEEE Hong Kong Electron Devices Meeting</i> . June 24, 2000, pp. 108-11. ✓					
<i>RTH</i>	18	Lipkin et al. "Insulator Investigation on SiC for Improved Reliability," <i>IEEE Transactions on Electron Devices</i> . Vol. 46, No. 3, March 1999, pp. 525-32. ✓					
<i>RTH</i>	19	Copy of International Search Report for PCT/US01/30715. ✓					

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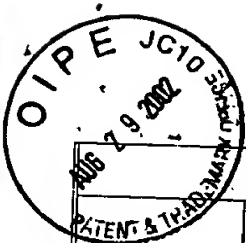
Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
<i>SKH</i>	1	3,924,024	12/2/75	Naber et al.	427	95	
	2	4,466,172	8/21/84	Batra	29	571	
	3	4,875,083	10/17/89	Palmour	357	23.6	
	4	5,170,455	12/8/92	Goossen et al.	385	89	
	5	5,184,199	2/2/93	Fujii et al.	29	10	
	6	5,510,630	4/23/96	Agarwal	257	77	
	7	5,726,463	3/10/98	Brown et al.	257	77	
	8	5,763,905	6/9/98	Harris	257	77	
	9	5,837,572	11/17/98	Gardner et al.	438	199	
	10	5,885,870A	3/99	Maiti et al.	438	261	
	11	5,939,763	8/17/99	Hao et al.	257	411	
	12	5,960,289	9/28/99	Tsui et al.	438	257	
	13	5,972,801	10/26/99	Lipkin et al.	438	770	
	14	6,025,608	2/15/00	Harris et al.	257	77	
	15	6,054,352	4/25/00	Ueno	438	268	
	16	6,100,169	8/8/00	Suvorov et al.	438	519	
	17	6,107,142	8/22/00	Suvorov et al.	438	285	
	18	6,190,973 B1	2/20/01	Berg et al.	438	275	
	19	6,204,203	3/01	Narwanker et al.	438	785	
	20	6,211,035	4/01	Moise et al.	438	396	
	21	6,238,967 B1	5/29/01	Shiho et al.	438	244	
	22	6,246,076 B1	6/12/01	Lipkin et al.	257	77	
	23	6,297,172	10/2/01	Kashiwagi	438	773	
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<i>SKH</i>	25	US200100558/52A1	12/01	Moise et al.	438	396	

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## FOREIGN PATENT DOCUMENTS

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							Yes	No
✓	26	0 637 069 A1	2/1/95	EPO				
✓	27	0 637 069 B1	1/31/01	EPO				
✓	28	WO 97/17730	5/15/97	PCT				
✓	29	WO 97/39485	10/23/97	PCT				

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

✓	30	Lipkin et al. "Challenges and State-of-the-Art Oxides in SiC," <i>Mat. Res. Soc. Symp. Proc.</i> Vol. 640, Nov. 2000, pp. 27-29.
✓	31	Jamet, et al. "Physical properties of N <sub>2</sub> O and NO-nitrided gate oxides grown on 4H SiC," <i>Applied Physics Letters</i> . Vol. 79, No.3, July 16, 2001, pp. 323-5.
✓	32	International Search Report, PCT/US 01/42414, April 23, 2002, 10 pages.
✓	33	Agarwal et al. "A Critical Look at the Performance Advantages and Limitations of 4H-SiC Power UMOSFET Structures," <i>1996 IEEE ISPSD and IC's Proc.</i> , May 20-23, 1996, pp. 119-122.

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